ENERGY CENTER
OF WISCONSIN

March 14, 2005

TO: Wisconsin Potential Study Advisory Committee and Stakeholders

FROM: Kevin Grabner, ECW

RE: Agenda for March 17 stakeholder meeting

Below is the agenda for the Thursday, March 17, 2005 Potential Study Stakeholder meeting covering the following topics:

9:00 am	Market 2 – Unitary HVAC end of service quality replacement
10:15 am	Market 4 – Commercial boilers
11:30 pm	Market 6 – Chiller system improvements

Lunch will be provided approximately 12:30, and chillers will continue after lunch as needed

1:15 pm	Market 7 – Ventilation system retrofits
2:30 pm	Market 1 – New construction HVAC

These times are approximate – if a market requires more or less discussion time, the schedule will be adjusted accordingly.

Discussion guides follow. These are simply meant to get the discussion going; they are not intended to limit the scope of the discussion.

Discussion may be recorded on audio tape to assist note-taking.

Proposed Discussion Guide

1. Defining the electric or electric usage and baseline market
    a. How do we define our markets?
    b. How can we determine the size of each market?
    c. How can we determine the baseline of each market; the market shares and efficiency levels of equipment types?
    d. Are there important differences in baseline by customer size?
    e. Are their important differences in baseline by customer type?

2. Efficiency opportunities and impacts
    a. What are the important measures or energy efficiency upgrades to contemplate for each market?
    b. What is the best method to quantify the savings?
    c. What are the most important variables that drive per-unit impacts and measure life for these measures?

3. Nature of the market
    a. What are the important market channels and actors for each market?
    b. What are the important motivators and barriers to energy efficiency in each market?
    c. What are the expected impacts of Federal standards and State energy codes?
    d. What are the natural trends among manufacturers?

4. Program approaches
    a. What program approaches to improving energy efficiency in this market have been used in Wisconsin and elsewhere?
        i. Are there <u>specific</u> programs (Wisconsin or elsewhere) that we should be using as models for estimating achievable potential for Wisconsin?
    b. What novel program approaches should we consider?
    c. What participation levels and program costs are likely for these program approaches?
    d. To what extent can an intervention induced efficiency improvements (direct and indirectly) versus reward naturally occurring changes?

5. Information resources (identify throughout the above)
    a. What information sources can we draw upon to address this question?

Final Proposed C&I Markets

#	Market Sector	Market Type	Market	Market Description
1	Commercial & Industrial	New Construction	High performance building design and construction (excl. industrial process)	Includes High Performance Building Design and Construction, a medium path between state-of-the-art sustainable construction and simple component substitutions, encompassing many measures of whole-building design, but widely adoptable.
2	Commercial & Industrial	Incremental	Unitary HVAC end of service replacement	The market includes unitary HVAC equipment replaced at the time of failure of the existing unit. It also includes the following items at the time of replacement: proper sizing; high efficiency unit specification; premium economizer specifications; proper controls; improved installation practices; acceptance testing and setup; and owner/operator training. We expect that savings/cost will be weighted by population tonnage (3, 7.5, 15, 25 tons) for increasing efficiency of the replacement unit to Consortium for Energy Efficiency Tier 2.
3	Commercial & Industrial	Incremental	Lighting potential lost opportunity markets (remodel, equipment replacement)	Includes commercial remodeling market, and replacement of fluorescent and HID lighting equipment that has reached the end of service life.
4	Commercial	Incremental	Commercial boiler (>300,000 Btuh) system improvements	Includes replacement for gas fired boilers over 300,000 Btuh mainly in health, education, and offices. Also includes controls and commissioning measures of temperature reset, tune-up, steam balance, and vent dampers. Replacement size up to approximately 3,000,000 Btuh.
5	Commercial & Industrial	Retrofit	Lighting & lighting controls retrofit	Includes market potential for a comprehensive lighting retrofit of commercial and industrial fluorescent, HID, and incandescent lighting to best available source. Would include Energy Star compliant exit signs. Study will be careful to exclude incremental lighting upgrades from the market so there is no double-counting.
6	Commercial	Retrofit	Chiller system improvements	Chiller system optimization to accommodate both improved controls and cooling tower measures, and improved chiller efficiency if replacement is included. Does not include optimization of ventilation.
7	Commercial	Retrofit	Ventilation System Retrofits	This market includes efficient motors, VFDs on fan motors, and improvements to sensors and controls.

#	Market Sector	Market Type	Market	Market Description
8	Commercial	Retrofit	Supermarket and packaged refrigeration	Grocery store: display cases, central refrigeration mechanical & control Packaged stand alone refrigeration: Includes solid-door and open reach-in refrigerators and freezers, Beverage merchandisers, Ice-makers.
9	Industrial	Incremental	Motor end of service repair & replacement	Includes the energy savings potential for efficiency upgrade from EPACT standards to NEMA premium efficiency motors. Market intervention would encompass motor management and downsizing when appropriate. Intervention would also encompass improvements in rewind practices for failed motors.
10	Industrial	Retrofit	Compressed air system optimization	Includes a range of best practices measures. Uses market studies to encompass measures including leak detection and repair, reduce system pressure, eliminating inappropriate uses, variable inlet volume or VSD controlled screw compressors, and properly sized and controlled compressor.
11	Industrial	Retrofit	Fan system optimization	Includes a range of best practices measures. Uses market studies to encompass measures including electronic adjustable speed drives, efficient motors, sizing, maintenance, and airflow.
12	Industrial	Retrofit	Pump system optimization	Includes a range of best practices measures. Uses market studies to encompass measures including electronic adjustable speed drives, efficient motors, sizing, maintenance, and flow.
13	Industrial	Retrofit	Manufacturing process retrofits	Will work with Stakeholders to select a limited number of process technologies that represent the best near term opportunities for conversion. Paper industry (several measures), food (ammonia refrigeration), and steam system distribution best practices are the candidate measure categories.
14	Municipal	Retrofit	Water/wastewater operations	Includes a range of best practices measures. Uses market studies to encompass measures including electronic adjustable speed drives, aeration measures, motors, sizing, and maintenance.
15	Agricultural	Retrofit	Dairy, Ag fans, and Ag pumps	Dairy will use a single savings number representative of a package of measures. Will work with Stakeholders to estimate fan (livestock) and pump (non-dairy) savings.